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The Second Soviet Occupation and Forestry in the Lithuanian SSR

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A. The Situation in Brief

1. By the Fall of 1944, the Red Army had reoccupied all of Lithuania. Administrative changes were introduced which reunified the Klaipeda area with Lithuania proper and added a portion of the Druskieniki area of Poland to Lithuania. Lithuania now includes, as a result of these additions, 65,197 sq Km.⁽¹⁾ The total area had 2,900,000 people in 1940 and in 1956 had 2,700,000.⁽²⁾ The administrative system was revised to the system of the 1939-40 occupation. In 1946, there were 23 counties;⁽³⁾ this number later increased to 42; but in 1950, the system was changed. Lithuania was divided into 87 rayons plus additional city and other administrative units. In 1955, there were 83 rayons and, as of February 1957, the system still appears to be fluid and changing.
2. In the Fall of 1944, Lithuania was in a period of severe poverty. There had been severe physical damage to the country and the population was greatly depleted by the flight of large numbers of people who preferred not to live under Soviet rule. Some of them were caught and forced to return but the largest part of the professionals and intelligentsia made their escape. The harvest of 1944 was interrupted by military activities and only a small part of the crop was harvested. The forests were badly damaged by the wartime and the first few years after the war were very hard.⁽⁴⁾
3. A Five Year Plan was introduced by the Soviets to restore and rebuild the area of Lithuania and the USSR proper. Soviet losses during the war were estimated at 1710 cities and towns; 70,000 villages; 65,000 Km of railroad; 32,000 industrial establishments; 109,000,000 head of stock; and 7,000,000 people. Total damages were estimated at 679,000,000,000 rubles. The Soviet forest economy alone (including Lithuania) lost 3,000,000,000 rubles. Damage was especially high in the western USSR.

B. The Lithuanian Forest Economy

1. The Soviet economic system, as it had existed in the USSR since 1918, was rapidly introduced in Lithuania. All land was expropriated, and all property nationalized. The dispute over forest use had been settled in the USSR since 1932 and Lithuania forests were divided according to the Soviet plans.⁽⁵⁾ There was a tremendous exploitation of Lithuanian forests from 1944-50. On 1 January 1950, Lithuania contained 1,300,000 hectares of State Forests plus 50,000 hectares of former peasant forest areas attached to Kolkhozes. The state forests were divided in two groups, the first (28%) designated as preserves to be maintained for soil and water conservation, resorts, and parks; and the second (72%) to be exploited and managed under a productive forest economy.⁽⁶⁾

2. Present Status of the Forests

- a. The most accurate and up-to-date estimates of Lithuanian forests are given by M Yankauskas in his book, "Maumedziai", 1954, page 234. He gives the following figures:

<u>Evergreen stands -</u>		
Pine	487,600	hectares
Spruce	425,300	"
<u>Deciduous stands -</u>		
Northern Alder	52,400	"
Birch	33,300	"
Oak	9,000	"
<u>Kolkhoz Forests</u>	<u>50,000</u>	"
TOTAL	1,057,000	"

The difference in this total figure and the figure of 1,350,000 hectares given above, 292,400 hectares, is composed of swamps, roads, lakes, meadows, and other incidental areas.⁽⁷⁾

- b. General forest density is given as 16% [i. e. 16% of Lithuania is forest or forestry property], but it has not been accurately determined and figures vary between 15.3 and 17.6%.⁽⁸⁾ There are approximately 120,000 hectares of sandy area in Lithuania which should be reforested. If this were completed, forest density would rise about 10%.⁽⁹⁾ The mechanization of farming has caused the transfer of small areas of land, formerly tilled, to meadowland. They are too small to be ploughed by tractor and as their use changes they tend to reforest. Thus, the area of brush land has increased. There are about 0.4 hectares of forest per person⁽¹⁰⁾ or about 1.2-1.5 F.I.Y.⁽¹¹⁾

- c. The forests are composed proportionately of the following trees:

Pine	42%	Aspen	7.3%
Spruce	28%	Oak	0.8%
Birch	13.1%	Ash	0.7%
Northern Alder	7.8%	Other	0.3%
			100% (12)

These figures show a remarkable increase in pine forests over earlier (pre-World War II) years and a decrease in spruce forests. About 21% of the total is composed of soft formations, indicating that previous natural reforestation has resulted in less valuable second growth.

- d. The state forest areas (excluding the Kolkhoz forests) are composed of:⁽¹³⁾

(1) Pineta

Pinetum	Cladiosum (Arid Type)	-	75,600hectares	-	15.5%
"	Vacciniosum	-	214,600	"	44.0%
"	Myrtillosum	-	126,300	"	25.9%
"	Polytrichosum	-	3,900	"	0.8%
"	Sphagnosum	-	31,700	"	6.5%
"	Ledosum	-	16,100	"	3.3%
"	Caricoso	-		"	
"	Sphagnosum	-	6,300	"	1.3%
"	Coryllosum and	-		"	
"	Tilliosum	-	2,900	"	0.6%
"	Oxalidosum	-	10,200	"	2.1%
			487,600		100%

(2) Piceta

Picetum	Oxalidosum	-	172,600	hectares	-	40.7%
"	Coryllosum	-	21,600	"	-	5.1%
"	Vacciniosum	-	18,500	"	-	4.4%
"	Myrtillosum	-	162,000	"	-	38.2%
"	Polytrichosum	-	9,500	"	-	2.2%
"	Sphagnosum	-	1,300	"	-	0.3%
"	Caricosoe	-	9,500	"	-	2.2%
"	Sphagnosum	-		"	-	
"	Alnoso-Urticosum	-	12,900	"	-	3.0%
"	"-Caricosum	-	16,800	"	-	3.9%
			425,300			100%

(3) Alneta

Alnetum	Urticosum	-	11,400	"	-	21.8%
"	Irosum	-	15,700	"	-	30.0%
"	Caricosum	-	25,300	"	-	48.2%
			52,400			100%

(4) Betuleta

Betulum	Caricosum	-	33,300	"	-	100%
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(5) Querceta

Quercetum	Oxalidosum	-	9,000	"	-	100%
			1,007,000			

- e. The most desired, highest quality trees are included in these stands as follows:

First and Second Quality Pine - 139,400 hectares - 28.6%
 " " " " Spruce - 255,200 " - 78.9%
 " " " " Oak - 9,000 " - 100%

In 1950, the state forests were divided by ages as follows:

Young stands 51%
 Middle Age Stands 31%
 Ripe Stands 12%
 Old Stands 6% (14)

Average age is about 30 years. By tree type the forests were distributed according to age as follows (There is some discrepancy between the tables):

<u>Tree Type</u>	<u>Ripe Stands</u>	<u>Old Stands</u>
Pine	3.7%	2.2%
Spruce	5.0%	2.2%
Oak	0.2%	0.2%
Birch	1.9%	1.0%
Aspen	1.3%	0.8%
Northern Alder	1.0%	1.4%
Other Deciduous	0.3%	0.1%
	13.4%	7.9%

It can be seen from the tables that present Lithuanian forests are completely exhausted and largely composed of young stands. The density of mature formations is low. (15) The young stands are thickly overgrown with brush and evergreen undergrowth.

- f. The distribution of the forests is not significantly different than it was in 1944. In 19 former counties, forest density is below 15%, in 15 it is between 15 and 25%, and in 7 counties above 25% but not over 47%. (16) The annual yield is fairly high (roughly 2,500,000 - 3,000,000 festmeters) because young stands have a fairly high increment (up to 10% on good soils), but the crop is largely (80-90%) brush, saplings, and bark (about 30%) of relatively little value even as fuel. (17) If the forests are cut according to the principal of sustained yield, they can produce about 10% structural wood, and 20-25% of pole type material suitable for mine timber and pulp wood. (18) In former years brush wood was considered valueless and was not even considered in statistical computations of the wood supply. Only in recent years has it been used and valued as fuel. Judging by the present situation, the shortage of structural timber will last 20-30 years. If cutting is restricted, the timber supply will steadily increase and within that space of time, the crop will be on a more normal basis. (19) Production of structural timber cannot increase considerably for 60-70 years, but if present practices are maintained, production by that time can be almost double (about 5,000,000 festmeters annually). (20) It is very doubtful that this will occur, however, because of the rising population (1-1.1% annually) and increasing industrialization.

3. Forest Management

- a. The Soviets established a Lithuanian Ministry of Wood Industry in 1945, patterned after the Commissariat of Wood Industry which had existed in 1940-41, and like it, essentially interested in exploiting the Lithuanian forests. The problems of reforestation and forest management were secondary to the tremendous needs for timber. The Ministry of Wood Industry was split in two in 1947 and a new Ministry of Forest Economy took its place beside the original Ministry. The duty of the new Ministry was management of the forests in a normal forestry program considering reforestation, conservation, etc. The original Ministry was responsible for logging, and transportation. It furnished the raw timber for Lithuanian industry. When that material came from other areas of the USSR, the Ministry of Wood Industry actually sent work parties to the areas, which the wood was available, to cut and ship it. For example, wood used in construction of the hydroelectric dam on the Nemunas River near Kaunas was cut in the Karelian Isthmus by Lithuanians. Both local Ministries were patterned after the All-Union Ministries in Moscow and functioned in a similar manner.

- b. The heedless exploitation of and damage to the forests in Lithuania and the USSR from 1940-1950 brought them to a point of almost complete exhaustion. As a result, the danger of drought, flood, and erosion became so serious that it threatened the agricultural base upon which the USSR was so dependent. The seriousness of the situation led to the establishment (in 1947) of the two Ministries and eventually to their re-combination in 1956 into one Ministry of Wood Industry.⁽²¹⁾ The Ministry works in connection with the paper, wood, and construction industries which are controlled by other Ministries. It handles all the functions of the former Lithuanian Forestry Department. [See end of report for availability of a sketch of one Soviet Lithuanian Forest Administration, 1956.]
- c. On the local level, there was no administrative change until 1947 when a system of primary administrative units called Leskhoz was introduced. Each Leskhoz contained one or two of the former forest master districts. In 1950, there were 23 Leskhoz in Soviet Lithuania, 180 forest ranger districts, and 2340 forest guards.⁽²²⁾ Average size of the various divisions was:

Leskhoz	- 55,000 hectares
Forest Ranger District	- 7,000 hectares
Forest Guard Circuit	- 540 hectares

The administrative headquarters of each Leskhoz is responsible for:

preparation of work plans;
collection of forest statistics;
determination of logging areas and volume;
designation and preparation of timber to be harvested;
Supervision and control of work parties;
Reforestation;
drainage and irrigation;
Protection against theft, insects, fungi, fire, etc.;
Production of wood products for local needs;
Education of the population concerning the forestry program; and
Improvements (Road and bridge repair, construction, etc.)

- d. Each Leskhoz is directed by a college or high school educated forestry professional plus a communist official, with engineering and technical aids. ✓
Since the number of administrative units has declined, there are probably enough professionals to staff the system, at least at the leskhoz level. The areas controlled by the forest rangers are quite large, as much as 2½ times larger than before World War II, and the rangers ideally should be college educated foresters. Foresters under the Soviets have one new duty; the promulgation of communist propaganda through the medium of evening schools and courses to raise and improve production.
- e. The frequent changes in the administrative system, and the large size of the forest ranger districts indicate a shortage of professional personnel. Approximately 200 forestry officials (30%) left Lithuania with the Germans in 1944 and never returned. There was approximately the same percentage of defections from Latvia, Estonia, White Ruthenia, and the Ukraine.⁽²³⁾ Many of those who left were the best educated and most capable. Their loss was a severe blow to the Soviets who have had constant trouble in building up an adequate man power reserve. The forest rangers (Girininkas) of Soviet Lithuania now have to perform essentially the same duties (on an average of 7000 hectares) as the forest masters formerly did (on an average of 20,000 hectares), and the same as the lesnichy (forest masters) of the USSR proper. There has never been a forestry position in Russia equivalent to the Lithuanian Forest Ranger. Probably many former Lithuanian forest masters now serve as rangers, so the quality of the work may in some cases be excellent. In addition, many former rangers still hold their own or equivalent positions. The guard system has not changed appreciably. The guards undoubtedly have more responsibility than before, because forestry activities (reforestation, cleaning, care, etc) are more complicated and time consuming in young stands, and the forest rangers cannot be capable of assuming all the duties held by the forest master plus the forest rangers. The guards must, therefore, also have additional training and education.

- f. The whole number of forestry officials is estimated to be:

	Director	Aids	Other	Multiplied By	Totals
Leskhoz	2	5	10	23	391
Forest Ranger	1	2	3	180	1080
Forest Guard	1			2340	2340
Total					3811

This compares with a force of 3100 persons in 1943. Judging by the situation under the occupation of 1940-41, the central administration is larger than it was in 1943. The Soviets must have a constant problem based on the nationalistic sentiments of the Lithuanian population and, particularly, of the foresters. Some foresters of the higher ranks (about 20 with their families) were deported to Siberia as dangerous to the regime. They were in guarded camps for 5-10 years, but most have now been released and work on naval stores production, logging operations, etc, ✓ mainly around Krasnoyarsk.

- g. About 350-400,000 Russians have been brought into Lithuania. As the most reliable element of the population, they hold the leading positions, act as police, and help to suppress nationalistic tendencies in economic as well as political affairs. Many of them are active in forestry, as Leskhoz Directors and in the central administration. (24) There is a policy of sending young Lithuanians to Russia for advanced education, practical experience, and to learn new techniques. As a result of the post-World War II flight and deportation of Lithuanian foresters, and the Soviet policy of transferring Russians in and Lithuanians out of the system, there are more Lithuanian foresters now in the US than in the Lithuanian SSR. (25) The Soviets do respect professional ability however. For example, former forestmaster Krushinskas, who fled before the Soviet armies but was captured in Germany, now holds a responsible position in forestry in Siauliai. On the whole, the back bone of the local forestry units is still Lithuanian.
- h. Many young Lithuanian men and women have "volunteered" for pioneer service in Kazakhstan, beyond the Volga, and in Siberia. Many have stayed beyond their contract (1-3 years) time, some permanently, and have won responsible positions. The policy, plus army service and university study in Russia, ✓ has resulted in a scarcity of young Lithuanian men in Lithuania. In their places are young Russians. (26) One of the Russian's duties is to counter any Lithuanian nationalist movements and neutralize any passive resistance on the part of the Lithuanians.
- i. Salaries of Lithuanian officials are low. For example:

	<u>Per month</u>
Director of a Leskhoz or timber mill or a University faculty member	1300-1600 rubles
Unskilled worker	400-500 rubles
Janitor (female)	150-200 rubles
Forest rangers and aids	500-800 rubles (27)

In addition to their salaries, forestry officials receive fuel and a dwelling. Prices vary between the official level and the black market level as follows:

<u>Goods</u>	<u>Official</u>	<u>Black Market</u>
Butter (1 kg)	28 rubles	38 rubles
Cottage Chees (1 kg)	16 rubles	
Fish (1 kg)	2.5 rubles	
Eggs (10 in winter)	18 rubles	
Eggs (10 in summer)	6 rubles	8 rubles
Sugar (1 kg)	9.5 rubles	25 rubles
Dress (ready made)	560-600 rubles	
Stockings (woman's cotton)	120-140 rubles	
Suit (best quality)	1000 rubles	
Shoes (man's)	200 rubles (29)	

Vital consumer production falls below demand and the inflated value of the monetary unit is reflected in the black market price level. A minimum existence salary is about 700 rubles per month but most workers and lower officials do not make this much. As a result, corruption, theft, apathy, and passive resistance are common, in spite of severe punishment and widely disseminated propaganda. (The curious communist propaganda is deeply rooted in the common conceptions of the eastern European peoples, who have suffered under totalitarianism longer than the West. According to this concept, which is widely held by the Russians and other Slavs (Lithuanians included), every government is imposed by God. No government, however, can be good government since it must exploit the common man in order to maintain itself and there is only a difference in the degree of the exploitation. The common man has no sympathy or love for his government, and no desire to help it. The communists try to break down this prejudice (among the intelligentsia as well as the people) by means of propaganda and other devices which they hope will be more effective than prisons.) (28)

- j. The Lithuanian forests are exploited more intensively than ever before because of their sparseness, and all officials have more to do. The forest guards are particularly busy because they have taken many of the duties formerly held by the forest rangers and because the danger of fire in young pine stands is enormous.
- k. The Communist Party has steady control over every element of life in Soviet Lithuania. From headquarters in Vilno, it surveys the activities of the central forestry administration, instructs it, and if necessary, punishes it. Leading officials of the administration are Communist Party members. The "Congress of Activists" discusses communist doctrine as applied to forestry as well as to other subjects. The responsibilities (forestry and political) are great and punishments severe, but in spite of every inducement and threat, their productivity is low. The professional level of the officials is probably (no data is available) low. There are too few professionally educated persons and too much concern with political doctrine. The backbone of the system is still the native Lithuanians; the communists are dissatisfied with them and trying to replace them. (30)

4. Forestry Education

- a. The staff of the Faculty of Forest Sciences left the country almost entirely (90%) in 1944. The few who remained were primarily interested in other fields, not forestry, or were assistants or aids. The communists made all sorts of promises to try and induce these professionals to return to Lithuania, but all of them failed. As soon as the Forestry Administration was revived, the Faculty of Forest Sciences was reopened and later on an Institute of Forest Research was established. All of these institutions required many more personnel than were available.
- b. The lower level schools in Lithuania are subordinate to the Lithuanian Ministry of Education. Professional schools and colleges are directed by the All-Union Ministry of Education or by All-Union Ministries corresponding to their specialties. The new Faculty of Forest Sciences was incorporated into the University of Vilno, so it originally reported to the All-Union Ministry of Education but was later transferred to the All-Union Ministry of Agriculture. The All-Union Ministry supervises all its subordinate educational institutions, prepares their programs, and ensures that they are in line with other Soviet curricula. Professors who received old-style educations are given special courses in Leningrad or Moscow to ensure that their teaching is in line with party practice.
- c. The education given is new. The traditional Lithuanian forestry education was patterned after that of Czarist Russia which sought to produce naturalists and forestry administrators for an essentially passive forest economy. The Soviets put the emphasis on engineering (mechanization of forestry techniques, transport, and industry) as is done in Western Europe and application of the new biological theories. (31) Instruction is in Russian. (32) The total number of professors is unknown, but of the old guard, the following are known to be in Lithuania and to be or have been employed:

Vladas	Vaitkus	(Retired)
Vincas	Taujenis	(Possibly retired)

Lithuanians among the members of the Institute of Forest Science of the Lithuanian SSR Academy of Science are:

M Yan Kauskas (Dean of the Faculty of Forest Science, ✓
Academy of Agriculture, Kaunas)

(FNU) Rugelis

(FNU) Stinskas

M Daujotas

A Minkevicius (Botanical Section)

M Lukinas ✓

A Kvedaras

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Only the last two are, or may be, Communist Party members. All were graduated from Lithuanian schools prior to World War II, and it is believed that most of them work as lecturers or even as professors at the Faculty of Forest Science (Vilno).

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- d. The Faculty of Forest Sciences probably has a total of 10-12 professors. Probably some of them are Russians. Any Lithuanians other than those mentioned above cannot be men of experience or importance. There is a ✓ shortage of people even in the USSR properly capable of teaching the engineering aspects of forestry which the Soviets stress. The faculty members seem to be tolerated by the communists and to be subject to very little interference. Apparently the communists have learned a painful lesson as the result of the mass flights of intellectuals during and at the ✓ end of the war. (It may be noted, however, that according to US press reports almost the entire staff of the Hungarian Forestry College left Hungary during the insurrection of 1956.) It is well known that in addition to their greater freedom, professors are some of the highest paid members of Soviet society (1000-1600 rubles per month plus the right to shop at special state stores) ✓

As a result, the Soviets have no difficulty in attracting new men (even Lithuanians) to academic and research careers. In spite of the leniency, however, professors are pretty tightly controlled by the auxiliary communist organizations within the universities such as the Komsomols, and others. Professors are frequently subjected to press criticism (individual and collective) as hold-overs of the bourgeoisie and its ideology.⁽³⁷⁾ Professors in the biological sciences have been especially subject to the criticism.

- e. The level of the available Lithuania professors would seem to be too low for Soviet conditions. The new concepts of Soviet forestry are strange to Lithuanians. Lithuanian forestry was passive, extensive, and conservative (except for exploitation). Soviet Forestry is dynamic and active. The level will rise as additional training is given in the USSR, and a few Lithuanians have made new studies of merit (T Ivanauskas in ornithology, A Minkevicius in botany, and M Yankauskas in pure forest sciences).
- f. The number of forestry students at Kaunas is unknown. Formerly, around 15 graduates each year, and it may be estimated that from 1947-1957 approximately 150 persons have been graduated in forestry science. Judging by the size and qualifications of the staff at Kaunas, however, the number may be larger. Official communist sources give misleading and exaggerated estimates of student numbers. According to them 18,000 Lithuanian professionals had already graduated by 1956 and there were 23,000 students. These figures include all persons (some without even an elementary school education) who have taken or are taking various practical courses concerning the work they are already performing.
- g. The efforts of the Secretary of the Lithuanian Communist Party to gain control of the professional schools and colleges of the Lithuanian SSR and his complaints that the All-Union Ministries tend to lower the number of students in them are quite interesting.⁽³⁸⁾ The policy of the All-Union Ministries has particularly impeded the training of necessary agricultural specialists. It is difficult to account for the policy since the shortage of trained professionals is still acute throughout the USSR, and particularly in Lithuania. The Lithuanian shortage is aggravated by the fact that many graduates are sent out of Lithuania to fulfill the terms of the scholarship contracts under which state pays for their education in return for work to be accomplished after graduation. (The statement of A Koncius, a teacher in the forest technicum in Vilno, in a letter of Dec '56 that the number of Lithuanian foresters in the US is greater than the number in Lithuania again comes to mind - [see footnote 25]). Most of the students have to use these scholarship arrangements. Their parents cannot afford to pay for their educations and it is almost impossible in the USSR to support oneself while going to college. The sons and daughters of the former leading families are forced to avoid the scholarships and the colleges and most applicants come from the ranks of the poorer elements of the population who are more sympathetic with communist philosophy.
- h. The extreme nationalism inculcated by the Lithuanian Government from 1927-39 has very deep roots, even among the poor. A strong nationalist reaction developed among Lithuanian students following the Hungarian revolt of 1956. As a result, the professors were denounced by the government as reactionaries. Late (Jan 1957) letters from Lithuania indicate that the student movement was strong and that active student leaders were executed. The students are poorly fed and dressed and are under steady police and auxiliary communist organization control. They do not have sufficient books or equipment.
- i. It may be roughly estimated that there are now 100-150 college trained foresters working in Soviet Lithuania (as Leskhoz directors, forest rangers, in the central administration, and in the wood industry). There should be at least 400 college trained professionals in the forest economy, so the balance must be made up of Russians. There are not enough Lithuanian graduates to fill the posts and many graduates go into other professions or are sent to other parts of the USSR. The decreasing number of students in the university is undoubtedly part of a policy to deliberately russify Lithuania.

- j. The Soviets apparently were very eager to train foresters because the Forestry Technical School in Vilno was reopened almost immediately after the Soviets reoccupied the area in 1944. Lithuanian young men preferred to stay in school to complete their college work rather than being content with only the technical instruction. There were complaints about this before World War II, and the Soviets are still complaining about the same problem.⁽³⁹⁾ The faculty and number of students of the Institute are not known but it has always trained large numbers of people. The average number of graduates each year was approximately 20-25. The war-time teaching was accelerated (73 graduates each in 1942 and 1943) but the quality of the graduates declined.⁽⁴⁰⁾ They were trained well enough, to handle the former duties of a forest ranger, but not the duties of a ranger under the present system. The number of graduated students (20-25) today is probably about the same as it was before World War II.⁽⁴¹⁾ This sort of practical school fits well into the Soviet scheme of education, although its curriculum has undoubtedly been changed, particularly as regards engineering.⁽⁴²⁾ The need for people with this practical training has always been high. There may be 300-350 living graduates of the school in Lithuania now, but 500-600 are required. The students of the school are probably mostly Lithuanians.⁽⁴³⁾ The director is unknown. A Rubikas, former director, was deported to Siberia in 1945.⁽⁴⁴⁾ Others on the staff include A Koncius, a Lithuanian, and M Lukinas, a Russian who was educated in Lithuania, and a pro-communist.
- k. The Soviets are greatly interested in the training of all ranks of officials. Special attention is paid to the lower ranks in order to win devoted supporters to communism and to train them to accept greater responsibilities. In forestry, this attention has special importance for the forest guard which is largely composed of peasants with no more than grammar school educations. Under the present forest conditions of abundant young stands there are great problems of nursing, cleaning, clearing, and thinning the young growth areas. The forestry technical staff is too small for the task and the guard force has had to be trained to take on some of the responsibility. The training includes elementary plant biology and other technical details, but in addition, it serves as an opportunity for indoctrination concerning communist theories of nature and politics. The communists trained 70 higher rank people for two months in 1949, and planned to train 150 forest rangers, inspectors, aids, and forestry bookkeepers in 1950.⁽⁴⁵⁾ Practical training of guards and laborers is carried out in all forest ranger districts. 569 persons attended this training in 1949, and about 1000 in 1950. Eventually the communists plan to train and indoctrinate all workers with communist ideals. Graduates of Lithuanian colleges prior to 1944 must take additional courses in Moscow (two years at the All-Union Ministry of Forest Economy) and Leningrad (3 months in the Forest Technical Academy). This instruction concentrates on the communist biological concepts and the new mechanical techniques.
- l. The Academy of Science of the Lithuanian SSR had 13 member institutes (in 1952).⁽⁴⁶⁾ Among these is the Institute of Forest Economy which is located in Kaunas and is responsible for forest evaluation and reforestation. Its main task is the publication of studies on the forestry policy of the USSR and the Lithuania SSR. Applicants for membership in the Institute (and in the Academy) must be college graduates over 40, be loyal to the regime, and have published works on forestry.

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- m. In general, the Institute is Lithuanian and non-communist but it is lead by communists. Its membership includes most of the best and most active Lithuanian forestry professionals. Its program is dictated by the National Academy of the Science of the USSR. Reforestation is certainly the institute's most pressing problem.⁽⁴⁸⁾ 75% of all the stands are young and unreforested and there are large sand dune areas and swamps. New Soviet reforestation policies call for the introduction of rapid growing trees to obtain maximum production in the shortest possible time. The Michurin idea of taking from nature rather than waiting for it to give, and Lysenko's theories are followed faithfully. ✓ Many attempts are made to develop tree hybrids. The Institute has issued only a relatively few larger publications, but may be circulating additional pamphlets, circulars, etc. Essentially, however, its research work has not yet reached the stage of producing reportable results. It works slowly and its effort does not compare with the more dynamic Latvian Academy.

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5. Press and Publications

- a. The professional publications concerning Lithuanian forestry have always been issued haphazardly as the result of incidental research conducted by individuals and reported in short articles. Few of these were scientifically acceptable. In the main they were articles, reviews, ✓ criticisms, and descriptions of popular interest, or detailed explanations of particular techniques, or statistical reports. They contained a good deal of information on minor problems. The Russian forestry press was of a similar nature but especially following World War II the program of an official forestry press was incorporated into ✓ the overall forestry plans. The present magazines are the only forestry publications available in Lithuania. They are issued monthly but distribution is limited in size (about 160 pages per issue). They can- ✓ not possibly be adequate to include the material of interest which is available. The material included, while interesting and written by competent specialists, is too brief and is more the type of material which one would expect to find in circulars and pamphlets. They include considerable material of seasonal interest and so they can be and are used as directives to the local units.⁽⁵⁰⁾ They are issued regularly, but delivery is poor. They contain a great deal of criticism and many new and vital ideas and experiences. The press gives evidence that the forestry program of the USSR is dynamic and that Soviet forestry research leads in Europe.⁽⁵¹⁾
- b. The various magazines discuss the actualities of the present problems besetting Soviet forestry. Much attention is paid to the combating of drought, the protection of watersheds, and the problem of drainage in the northern forests. There is also considerable material inserted on communist political themes. The magazines, especially those on forest biology are based on new currents in Soviet science, and are not, as forestry magazines frequently were before World War II, monotonous and copied

from one another. Most seem to be designed almost as text books. Many have been translated into Lithuanian and distributed as directives. (52)

- c. Professor Minkevicius published a college text "The Basis of Phytopathology" in 1944 and Professor Kolpikov published a similar volume, "Elements of Forestry" in 1949. Other publications issued for training purposes (including the forest guard) include:

"Rules for the Case of Nursery Seedlings", 3100 copies
 "Practical Control of Forest Cultures", 4600 copies
 "Guide Book for a Forest Guard", 6000 copies
 "Leskhoz Regulations" 1700 copies
 "Rates of Forest Productions", 2100 copies
 "Stakhanovites in Forest Production", 3100 copies
 "Instructions in the Prevention of Forest Fires", 3100 copies
 "Inventory and Accounting Procedures", 500 copies

Total

23,600 copies

In the period of 1946-1956, more publications on Lithuanian forestry were issued than in the 21 years of the Lithuanian Republic. Professional books were then rare but now appear to be popular, to the advantage of the Lithuanian forest economy. Science under the Soviets is not separated from production, but serves it.

C. The Status of the Soviet Forest Economy

1. While the USSR is rich in natural resources, it has many serious problems to solve concerning the lack of food and wood which are brought on by climatic problems and the vast distances within the country. The largest forest areas are located in the northern portions of the European USSR. The swampy forests have a very low production (1-1.5 festmeters per hectare per year) in spite of their maturity. A great deal of the wood is spoiled by rot.
2. The central portion of the European USSR has the most moderate climate of the USSR and while precipitation is low, the growth of structural evergreen timber and some deciduous timber proceeds very well. The area is heavily populated and with the pressure of industrialization, the forests have been overcut. In addition, they were especially hard hit by wartime damage. For exploitation purposes, they will be useless for a long time.
3. The southern portions of the USSR include wide steppe areas with even larger areas of desert and semi-desert. All have very fertile soils but insufficient precipitation. The periodic droughts which occur here seriously harm the agricultural economy of the USSR. The forests of the area, especially in the Ukraine, have been decimated and their production is very insufficient. The overcutting has brought about serious new erosion problems, rivers are drying up, and floods are a common occurrence. As a result, desert and semi-desert areas are spreading northward into central Russia, and the swamps of the north, previously blocked by forest stands which have been cut down, are spreading southward.
4. The overcutting of the forests after World War II lasted until 1948 when a common outcry was raised against the serious effects brought on by the cutting. There was a sharp reversal of forestry policy bringing an end to the over exploitation, and a change to a policy of maintaining the forests in order to protect crops, and combat drought.
5. The Siberian forests are very vast, but again, large areas are in swampy regions and have a low annual production. They contain high quantities of mature and over-ripe (largely spoiled by disease) stands, but they are so far from the centers of manufacture and population that they cannot be of much use. Only the West Siberian forests have an influence on the forest economy of the European USSR. One of the reasons for the transfer of Western Soviet industry to eastern areas is the greater availability of wood in the west.
6. Wood was in short supply in the western and southern portions of the USSR even before World War II. The Soviets were exporting wood from those areas, however, in order to build up foreign exchange balances. (53) As a result of the war and post-war demands, the supply of wood almost stopped, especially of structural timber. The shortage will not be alleviated for several decades.

The first move to restore the ruined forest economy was set underway in Dec '47. It became part of the first priority policy of the government to rebuild the USSR's agricultural base.⁽⁵⁴⁾ Major attention was paid to the replanting of strips in the southern steppes and along the major rivers, and to the protection of the remaining forests in those areas for conservation purposes. The northern forests were not given the same attention. The central zone (Lithuania included) receives the greatest care. Its production potential is highest while the northern forests have the least and the southern forests given promise of limited production of structural timber. In 60-70 years, the USSR hopes to have an abundant wood supply for its own use and perhaps even enough to supply the needs of the European wood market.

7. The Soviet forestry policy is part of a plan for the "reconstruction of Soviet nature". The forestry policy foresees:
 - a. large plantings in the semi-arid steppes to protect crops;
 - b. large plantings and special care of existing forests along main rivers;
 - c. establishment of large nursery areas;
 - d. large plantings to control shifting sand dunes;
 - e. incorporation of mechanization into forestry work;
8. The main problems confronting the forestry administrators are:
 - a. increasing of the quality and quantity of production;
 - b. accomplishing an increase in production as rapidly as possible;
 - c. increasing the forest area of the central portion of the European USSR; and
 - d. training the necessary personnel;

Most of the problems which beset the Soviets are only a continuation of problems which were serious in Czarist times. The Soviets, face these problems on a larger scale, but attack them with greater energy and new methods.

9. One of the most interesting aspects of the new Soviet forestry drive is the new conception of nature, officially recognized and legalized by the party and government, under which it operates.
 - a. The originator of part of the new Soviet theory was an able gardener Ivan V Michurin, who became known in 1928 as the developer of various strains of drought and frost resistant fruit trees. While Morosov and other Soviet scientists had been skeptical of the influence which man could have on nature, Michurin declared that man could alter the nature of plants in a desirable way within a short span of time.⁽⁵⁵⁾ Without using acceptable scientific methods and explanations, Michurin obtained practical results upon which the Soviets base their plans for future agricultural practices. He is, therefore, considered by them to be one of their heroes.
 - b. Michurin's ideas were developed by others, especially T Lysenko, who without a scientific basis disputed the hereditary laws of Mendel, Morgan etc., and claimed that new organisms can be developed by applied environmental conditions. The basic idea behind this is that man can alter the hereditary characteristics of an organism within a few generations by the application of external influences and that the cells, not the genes, bear these new characteristics. The Soviet concept of dialectic materialism provided a theoretical basis for the Michurin-Lysenko ideas.⁽⁵⁶⁾
 - c. The important thing about the Michurin-Lysenko theories from the standpoint of this study is not that they are right or wrong, but that they are recognized and obligatory state concepts. They are taught in all schools and have important influences on forestry because all estimates in regeneration, nursing, and typology are based on them. Under them the forestry economy of the USSR must not only produce timber but must cooperate closely with agriculture, and other branches of production. In the steppes, for example, combined orchards and forests were planted and new domestic and foreign trees were introduced. Special research stations have been set up to perform hybridization experiments.

D. Status of the Lithuanian Forests Under Soviet Forestry Theory

1. All the concepts and regulations of Soviet forestry are reflected in Lithuania except the efforts to control drought areas which have little application to Lithuanian conditions.⁽⁵⁷⁾ Much of the new theory was originally unclear and confusing and a revulsion of criticism followed early applications, not only in Lithuania, but throughout the USSR. Official requirements demanded the application of the theories but the scientific community, passively resistant to new ideas, was powerless to do so. It taught them, but without persuasion or forcefulness. Communist leaders were quick to attack this lack of enthusiasm and to force more enthusiastic acceptance of new doctrines.⁽⁵⁸⁾ While Lysenko has been discharged from his position as President of the Agricultural Section of the Academy of Science and his theories denounced, there does not seem to have been much change in their application. Apparently, they are still the basis for forestry planning.⁽⁵⁹⁾
2. Work Plans:
 - a. All state forests in the Lithuanian Republic were managed under ten year work plans (some of which have been revised). In Vilno, there were work plans for all state and some larger private forests. The devastation of the forests from 1940-48, however, destroyed the usefulness of these plans and new ones had to be drawn. Yankauskas' new book about the larch proves that this had been accomplished prior to 1954.⁽⁶⁰⁾ There is even an indication that productivity tables have been composed.⁽⁶¹⁾ The work plans were probably prepared in accordance with the estimates Yankauskas gives in his book (see Part B, 2. above).
 - b. The old Soviet school of forest typology (Kruedener, Sukachev, Morosov, etc.) had already been denounced before World War II as a result of the new theories.⁽⁶²⁾ The new school sought to ignore the time factor in the natural processes of plant life and to hybridize new, artificial forest formations.⁽⁶³⁾ A proper theory of forest typology is highly significant in developing a proper forest economy. In the Lithuanian Republic, the question of typology was only theoretical because forest types were already determined. It was of interest, however, because clear cut practices brought about fundamental changes in the forests. Forestry management tends toward a goal of dividing and managing forests by specific tree types. Only this method which can employ standard techniques in a large area can achieve maximum production.
 - c. There have been two groups of forest typologist in the USSR, forester typologists and botanists (phytozonologists). The last group divided the types bases on the character of the herbs to be found growing beneath the forest crown. The foresters were a more informal group, basing their individual decisions on such indications as soil, elevation, etc. They sought to copy nature and to help the botanists and nature to form natural formations. They were practical; the botanists theoretical.
 - d. Lithuanians under the Republic (1918-39) tended to apply theoretical typology to their forests, particularly that of Sukachev. J Vilcinskis and Yankauskas were followers of Sukachev's thinking. Sukachev and other theoreticians described artificial or temporary types as well as the natural types in their schemes. Thus, the practical school was able to accept Sukachev's scheme and to introduce new, artificial types into their present practical schemes. At the International meeting of Forest Typology in Paris in 1956, Sukachev represented the USSR and was authorized by the meeting to develop a general principle of typology for European forests as a whole.
 - e. The present Lithuanian forest type scheme was inspired by Sukachev, supposedly with consideration given to the ideas of the practical foresters. It was not practical to divide forestry activity by forest types in the Lithuanian Republic because of the lack of personnel. The present application of the system (23 different types) in the individual, separate forest stands of the Lithuanian SSR requires a very great number of educated, intelligent professionals. Even the lowest ranks must be carefully trained to handle the complications of the system. Thus, education is a prime concern of the forestry administration.

- f. The study of forestry types is important in forestry's chief problem - regeneration. As a rule, regeneration failed before foresters learned the proper steps to follow by studying forest types. Active management by forest type looks attractive but in practice, economic, political, and psychological obstacles interfere with man's plans, especially in Soviet dominated areas. The apathy, passive resistance, and disgust with Communist rule which were generated under Stalin all served to hinder forestry progress. The Bulganin-Khrushchev policies toward greater freedom should serve to win greater support for the regime and for forestry policies among others.
- g. No serious, extensive forest plan can be drawn for Lithuania before large scale research is completed. The Forest Institute of the Academy does seem to be achieving some notable research results but much hard work remains to be accomplished. (64) The Communist Party and its auxiliary organizations work steadily to increase productivity by means of propaganda, rewards, competition, and criticism. High Soviet officials sometimes visit Lithuania to provide stimulation for this program.

3. Exploitation

- a. All Lithuanian forests are now sub-divided as follows: (65)
 - (1) Group I - Forest preserves for purposes of soil and crop protection and for resort use including parks and landscaped areas around and within cities; forest strips for water conservation purposes are also included (since 1949). 4 km strips parallel both sides of the Nemunas and Vilija Rivers and 1 km strips parallel both banks of the Nevezis, Dubisa, Sventoji (the tributary of the Nemunas), Zeimena, Merkys, Verkne, Minya, Sesupe, Baltoji, Ancia, Venta, Nemunelis, Musa, Svete, Levuo, Bebrungas, Mituva, Akmena, and Jura, Rivers and the Minijs-Baltic Sea Canal. This group consists of approximately 355,000 hectares or 28% of the Lithuanian forest area.
 - Group II - All other forests (72%) consisting of approximately 919,000 hectares. (66)
 - (2) No logging is allowed in forests of the first group except the removal of dead or diseased timber. (67) The forests of the second group are logged by the clean-cut method.
- b. As said above, Lithuanian forests are in very poor condition. Normal production from 1944-50 would have been 2-2,500,000 festmeters each year (68), but 5,000,000 festmeters a year were cut (41.5% was structural timber). (69) Even Soviet sources admitted that the Lithuanian forests were badly over exploited. (70) Judging by the present forest ages (see par. B, 2.), the over-cutting was much higher than estimated by German sources (see footnote 69). In 1947, orders were issued to cut the exploitation of the Lithuanian forests 30% (from the estimated high of 5,000,000 festmeters to 3,500,000 festmeters (still far too high) because mature timber was almost nonexistent, (71) but it is doubtful that the exploitation dropped.
- c. The first years of the Soviet occupation brought confusion to the forests since selective cutting was the rule. (72) If the yearly cut remains as high as 3,100,000 festmeters, there will be no ripe timber in Lithuania within a few years. The estimate of 41.5% structural timber in 1945 shows that much more was cut than should have been. (73) Young stands produce high percentages of brush wood and bark, not structural timber. (74) Their yield from thinning and clearing may be 80-85% of the wood crop. Part of this yield may be useful as mine props and pulp wood. The situation will last for several decades and a good crop cannot be expected for 50-70 years. (75) A great deal of attention will have to be paid to the use of substitutes, especially for fuel, such as stumps, peat, and coal. There is no problem of disposing of the yield at prices set by the government. Such prices should be low since the quality is so poor.
- d. In order to raise production, extensive thinning is conducted in middle age stands, causing an increased growth increment among the remaining trees. The areas with most structural timber remaining are located in eastern and southern Soviet Lithuania, in the former Polish forests north and west of Svenciany and south of Druskieniki. (76) There is also ripe timber available around Lebanorai and Simonys but not in great quantity.

4. Reforestation

- a. Reforestation and restoration of the devastated forests is a major goal of Soviet Lithuanian forestry. Not only must production rise, but it must be improved. The following goals have been set:
- (1) To increase the productive area by planting sandy areas, draining swamps, and planting sparsely forested areas;
 - (2) To manage the forests as much as possible by division into forest type areas;
 - (3) To support natural reforestation and apply artificial reforestation widely;
 - (4) To introduce rapid growing foreign trees and new, resistant stock developed from domestic species; and
 - (5) To introduce mechanization in nursing, cleaning, thinning and reforestation. (77)
- b. The second Five Year Plan (1950-55) following World War II foresaw the artificial reforestation of 105,000 hectares of forest. Assuming that the present forestry management is cutting about 10,000 hectares per year or 50,000 hectares in the 5 year period, this is a gain of 55,000 hectares in new forest area. In addition, 32,000 hectares were reforested from 1947-1949. (78) In this area are included portions of sandy soil which are included in the reforestation plans. It is evident that the Soviets are seriously interested in artificial reforestation.
- c. The chief tree types are not significantly different than they have been, pine and spruce. (79) Oak has a high priority for regeneration and reforestation (10,000 hectares of pure oak plantings from 1950-55) and special protection and care for naturally reforested seedlings. (80) Special foresters have been trained for oak forests. In 1949, they produced a seed crop of 120,000 Kg of acorns. (81)
- d. The Forest Institute is responsible for studying the introduction of foreign trees. Yankauskas' study of the larch has been discussed above. He found that the larch species is well acclimated to Lithuania and gives even higher production than some native evergreens. There is increasing attention paid to the introduction of this tree and various mature stands are being developed for their seeds. (82) There is evidence that the black poplar (*Populus Nigra* and varieties) is also being introduced into Lithuania but not on a large scale. The tree has grown in Lithuania since 1905 when it was used as landscaping around military construction. The tree grows rapidly and can be harvested within 40-50 years. It does not readily reseed itself in Lithuania, but regenerates well from stumps and roots. It is possible, however, that the Soviets have developed a variety which produces germinating seeds readily under Lithuanian climatic conditions. More serious efforts are being spent on producing a variety of the European aspen (*Populus Tremula*) which will be resistant to rot. If they succeed in this they will have a rapid growing, pioneer tree which produces wood valued for match wood, the cellulose industry, furniture and many other minor uses. Aspen wood is white and light. If protected against dampness, it is very durable. Official sources (83) announce that the red oak (an American tree) and ash are also being planted. Overall, however, it appears that most dependence is still being placed upon regeneration of the native trees and that the Lithuanians are somewhat skeptical of the great plans of their Soviet colleagues.
- e. The scale of the work in forest regeneration is impressive. From 1950-1955 the following was accomplished:
- | | 1950 only | 1950-55 |
|----------------------|-----------------|------------------|
| Seeding and Planting | 15,000 hectares | 105,000 hectares |
| New Nurseries | 90 " | 425 " |
| Seed Production | 16 tons | 90 tons (84) |

This work averaged out per year as follows:

	Leskhoz	Forest Ranger District	Forest Guard Circuit
Seed Production	1300 Kg	170 Kg	13 Kg
New Nurseries	3.5 hectares	0.4 hectares	0.03 hectares
Seeding & Planting	550 "	85 "	6.5 "
Nursing Young Stock	3300 "	400 "	30 "
Efforts to Stimulate Natural Reforestation	650 "	95 "	6.5 "

The tables show that the forestry administration spends a great deal of time on reforestation, but no more than is necessary to do the job properly. The money appropriated for the purpose (about 13 rubles per hectare) is very low and therefore the work cannot be done particularly well.⁽⁸⁵⁾ This is a repetition of the mistake made by the Lithuanian Republic. A great deal of effort has been put into increasing seed production (an additional 40 Kilns and 70 stoves).⁽⁸⁶⁾ ✓

- f. There are 120,000 hectares of non-productive sandy areas in Lithuania, especially along the Baltic and the Bay of Kurland.⁽⁸⁷⁾ The earlier plantings in these areas were largely destroyed in 1944. Reforestation of the areas is difficult and the Lithuanian SSR has appealed to Moscow for help in doing so.⁽⁸⁸⁾ The planning has been completed to establish a special leskhoz for this purpose.
- g. There are 160,000 hectares of swamps and swampy forests which must be drained and reforested. The 1950-55 2d Five Year Plan called for new drainage of 5000 hectares annually by open ditches and renovation of 1300 Km of existing ditches.⁽⁸⁹⁾ Other plans were made for increasing the forest density of Vilkauskis, Kalvarija, Pogegiai, and other counties.⁽⁹⁰⁾
- h. The plans, and the schedules for their completion, appear to be realistic. In 1949, the successful plantings were averaging 91% and on one 7500 hectare area as high as 97%. A few work brigades even achieved 100% success.⁽⁹¹⁾ In 1950, the planting and seeding plan was over fulfilled (15,594 hectares - 105%) and so was the establishment of new nurseries (70.5 hectares 117%).⁽⁹²⁾
- i. In 1956 Rugelis a member of the Lithuanian Institute of Forestry, sharply criticized the reforestation program. According to Rugelis the vitality of the planted and seeded stands was very low, the care and nursing of young stands ineffectual, and the status of the forests as to type exactly as it had been before 1939.⁽⁹³⁾ Judging by this criticism much of the Soviet effort has failed, probably because of insufficient appropriations, lack of research, and lack of enthusiastic support from the workers and population. There is no evidence that the Soviets have been able to accomplish mechanization of forestry techniques, or that they have been able to lengthen the planting season (as is done in the USSR proper) to include fall and winter months.⁽⁹⁴⁾ Better vitality and care of the young plants have been obtained by reorganization of the workers (mostly women) into brigades. These brigades and their divisions sometimes work with a new stand until its crown closes (6-10 years). This is a new and apparently useful technique.⁽⁹⁵⁾
- j. The former peasant forests which now are included in the state forest area but exploited by the Kolkhozes, have not improved much from their historically bad condition. They produce only about 1-1.25 festmeters per hectare per year.⁽⁹⁶⁾ On 1 Jan 50 there were 50,000 hectares of this type of forest in Lithuania, but the area is steadily increasing.⁽⁹⁷⁾ The increase means that small areas of arable and meadow land which cannot be farmed mechanically are not being used and are being naturally reforested by pioneer soft woods. The Kolkhoz forests are 70% young stands, 28% middle aged, and 2% mature. They need closer control by the state forestry administration before they will be productive. In Jan 1950, 5000 hectares of young stands in these forests were completely deforested young stands.

5. Conservation

- a. Fires caused terrible damage to the forests following World War II. They fed on the fallen and dead wood which choked the forests until 1948 when the authorities began to clear away the trees.⁽⁹⁸⁾ The pine plantings on the Kuronia Penninsula suffered most from fire. Fire is one of the major reasons why forest productivity has dropped so sharply under communist rule.⁽⁹⁹⁾ By 1949, however, fire was under much better control, declining by 95%.⁽¹⁰⁰⁾ There is no indication of the cause of the fires which have occurred, but arson (as a political protest) may be a major cause as it was in earlier days.⁽¹⁰¹⁾ The authorities planned the construction of 50 observation towers from 1950-55 and the extension of the telephone system for 300 Km (30-50 telephones).⁽¹⁰²⁾ Flowing of protective strips with tractors has also been speeded up.⁽¹⁰³⁾ Special care to protect against fire is taken in the Kolkhoz forests. Certain populated places are regularly assigned to combat forest fires in the forest rangers of their areas.
- b. Grazing is allowed in mature forests, but not in young (expecially oak) or cultured stands. Live stock does considerable damage to the Kolkhoz forests.⁽¹⁰⁴⁾ Theft is still a problem in forestry management, again especially in the Kolkhoz forests, and was a serious matter as late as 1950.⁽¹⁰⁵⁾ This is not unexpected because the supply of fuel wood is low.

6. Improvements and Investments

There is very litte data available on this subject.⁽¹⁰⁶⁾ The scope of the effort put into education, reforestation, conservation, etc. has been indicated above. Investment figures available which may be considered about average show:

1949 - 200,000 rubles for construction of watch towers, husking houses and administrative structures in Birzai, Kaisiadorys, Kazlu-Rudos, and other areas;⁽¹⁰⁷⁾

1,000,000 rubles for renovation and repair of existing structures.

1950 - 800,000 rubles for new capital investments;

1,300,000 rubles for renovation and repair of existing structures.

There were no special appropriations for road programs.

E. The Lithuanian Wood Economy⁽¹⁰⁸⁾

1. Production⁽¹⁰⁹⁾

- a. As said above, Lithuania now produces only about 2,500,000 - 3,000,000 festmeters of wood, of which 80% is of small size and inferior quality. 30-40% can be used for pulp wood and mine timber, but the balance is usable only as fuel. There are a few ripe stands left which still produce valuable structural timber, but much of this must be selectively cut from occasion mature trees in younger stands. Much of the larger timber is still not suitable for lumber and therefore, the supply of timber available for the sawmills is negligible. Some of the structural timber suffers from rot (e.g. aspen which originate from sprouts have a rotten core), but are used as logs to build cabins in the arid areas of the Southern USSR. The supply of wood available is divided approximately as follows:

(1) Smaller sized wood (80%)

- | | |
|----------------------------------|--------------------|
| (a) pulp wood & mine props | 560,000 festmeters |
| (b) brush, branches, stumps, etc | 2,240,000 " |

(2) Larger size wood (20%)

- | | |
|--------------------------------------|-------------|
| (a) Sawmill timber | 100,000 " |
| (b) Structural logs ⁽¹¹⁰⁾ | 600,000 " |
| | 700,000 " |
| | 3,500,000 " |

- b. The decision was reached in 1948 not to harvest over the average annual increment (about 3,500,000 festmeters) and to thin and clear extensively in order to increase the yield of the remaining formations. This situation will probably last through 1970-1980.

2. Demand

a. Local

- (1) The needs of the population for fuel have probably decreased since there is less available housing and fewer cattle and other domestic animals. In 1956, the population of Lithuania was 2,700,000.⁽¹¹¹⁾ This population would need a minimum supply of 1-1.25 F.I.Y.⁽¹¹²⁾ of wood for fuel and other minor uses or 2,700,000 - 3,300,000 festmeters per year. After a comparison with the production table above, it can be seen that the supply falls 500,000 festmeters short of the minimum. The supply of brush, stumps, etc. for fuel can be used only by the rural peasants who can cut and haul it themselves. It is not cheap because it requires so much time to cut and collect and so much hauling space (2-3 horse carts per festmeter). It cannot be transported more than 20 Km because of the bulk and high costs of the transport (2-3 times as high as regular fuel wood) and its poor heating quality (2-3 times less than regular fuel wood). For economic reasons, the urban population must be provided with better quality fuel but because there are serious shortages of cord wood, coal, and peat, the cities suffer greatly. For example, in Vilno the situation has been so bad that public buildings have been unheated in winter and sewer and water supply systems have frozen.⁽¹¹³⁾
- (2) The distribution of fuel has been a pressing problem for every government since 1938. No official wanted to assume responsibility for the duty. There is now a special Ministry of Local Industry and Fuel Distribution which runs fuel yards in each town or city, from which it distributes wood, oil, coal, and peat. Many occasions, the yards are empty⁽¹¹⁴⁾. As a result of the shortages, theft of wood from construction sites, old buildings, and parks is commonplace.⁽¹¹⁵⁾ Little attention is paid to rural needs and the Kolkhozniks are left to find their own supplies. Since brush and undergrowth is increasing, fuel is not a serious problem in rural areas. More serious is the problem of supplying public institutions and small industries which require fuel wood no smaller than 15 cm in diameter. Railroads and the army also require fuel wood in large quantity. Their demand is unknown, but it undoubtedly takes precedence over that of the population and accounts for the shortages in the cities.
- (3) One half festmeter of structural wood per inhabitant or 1,350,000 festmeters, was normally required each year. Structural wood is now distributed by special ministries in charge of construction of city and Kolkhoz dwellings which have their own building crews and supply yards. The peasants forced on to the Kolkhozes live under such miserable standards that they ordinarily cannot afford to even repair their own log cabins. Formerly each peasant usually had a one room home (about 8 x 12 meters) with a porch (8 x 4 meters) a wooden floor and ceiling and a thatched roof (occasionally shingle or tin plate); a dirt floor stock shed about twice as large as the home; and a barn about the same length as the shed but wider (up to 10 meters). To build these structures required 100-120 festmeters of timber. They would last no more than 50 years (because of poor foundations) and at least two festmeters of structural timber were required each year to repair them. After collectivization (completed by 1952) the abandoned farmsteads of the wealthy peasants who were transported to Siberia or to other areas, rotted away or were torn down for their timber. Newer or better buildings were transported to the Kolkhoz centers. All peasants lost their barns. If they were not actually moved away, the owners tore them down. Very few still exist. On the old individual farmsteads the houses, sheds, and occasional small storehouses still remain. Most fences have disappeared, having been burned as fuel. The Kolkhoz centers are often located on the sites of the former large estates which were mainly Polish owned and which had larger and better kept buildings.

- (4) The Kolkhozes are being steadily enlarged and the inhabitants of the individual farmsteads are being transferred to the "agrograds". One reason for this is the saving which can be effected in fuel and structural wood by building large, communal buildings. This movement has progressed farthest in the areas of higher forest density and poorer soils (the upland areas) where the available buildings were generally of the best quality and could be transported to agrograds.⁽¹¹⁶⁾ In the more fertile plains where forest density is lowest the available structures are of poorer quality and are unsuitable for transfer to agrograds. Many are built only of brick and raw clay and cannot be removed. Therefore, there is not as much population concentration in the plains. The agrograds have really become new towns with all the necessary farm buildings and workshops. Surrounding the centers are small clusters of individual dwellings which have been moved from old, individual farmsteads. These "suburbs" are larger in the uplands and smaller in the plains. The individual homesteads which still dot the plains are in miserable condition. The poorest are located in Mazeikiai and Sauliai counties.⁽¹¹⁷⁾ There is no evidence of any new construction. No one remaining on his old farmstead can receive any structural wood allotments. The only source of this material for them is theft.
- (5) The build-up of the Kolkhozes has been very slow. Official sources blame this on wood and transport shortages.⁽¹¹⁸⁾ The new living quarters which have been completed are ugly structures 100-150 meters long, 10-12 meters wide. In many cases they are made of raw clay. Windows are small and only on one side of the building. The builders are able to save three doors by this plan. Buildings of this type are in use on Kolkhozes in the Alytus, Lasdijai, Jurbarkas, and Pakruojus areas.⁽¹¹⁹⁾ There is not a great deal of data on the progress of Kolkhoz construction, but obviously it is very low.
- (6) The construction of buildings in cities and towns appears to be more advanced than rural construction, but still far from adequate.⁽¹²⁰⁾ Persons arriving in the west from Lithuania give the impression that new construction for dwelling purposes is on the order of military barracks.⁽¹²¹⁾ Some private construction of small wooden cabins is reported in the suburbs of Kaunas and Vilno. Timber for this construction is purchased from any available source, legal or otherwise. The only labor available for private construction is that of persons whose regular duties are completed. They charge huge prices for their services.
- (7) For all types of construction, no more than 500-600,000 festmeters of wood a year are available. This could be transformed into about 10,000 small units (50-60 festmeter average), approximately the annual volume of construction before World War II. There is an enormously increased demand, however, for reconstruction, repair, and new construction and the available wood supply is far below the needs of the moment. For major construction (e.g. the Hydro-electric plant on the Nemunas below Petrasiumai) timber supplies are imported.⁽¹²²⁾
- b. Industrial The most pressing need is for lumber. Suitable timber for lumber now grows only in eastern and southern Lithuania (75% of the supply). The rest is scattered and cannot be economically harvested except for local use. Vilno and Kaunas probably still have some minor sawmill activity, but there is certainly no lumber available for export and the supply of lumber is no more than half of what it was before World War II. The annual supply of 100,000 hectares of sawmill timber can be converted into approximately 65,000 cubic meters of lumber.
- c. Exports, Imports and Transportation
- (1) The incorporation of Lithuania into the USSR and other post-war events made possible the re-opening of the Polish border and Polish and White Ruthenian timber began to pass down the Nemunas and Viliija again. Mature timber was still available in the Polish part of White Ruthenia in spite of the war damage. The Soviet White Ruthenian situation, however, was even worse than the Lithuanians. Active warfare and guerilla activity has never ceased in White Ruthenia and a tremendous amount of damage was done to the forests.

The timber rafted on the Nemunas and Viliya is destined for Klaipeda and the Kaliningrad district (formerly East Prussia) and appears to be mainly for construction of pilings. Limited quantities of this material may remain in Lithuania. Wood has also been imported from Karelia (for the Nemunas hydro-electric station) but in unknown quantity.

- (2) In spite of its severe shortages, Lithuania still exports timber (mainly the product of thinning in middle age stands) to the cellulose industry of Klaipeda and Tilsit-Ragnit and the coal mines of the Ukraine. The Lithuanian supply is certainly inadequate to supply these areas but it is supplemented by the White Ruthenian and Polish supply.
- (3) The most valuable pine stands left in Lithuania are those in the southwest portions which were formerly Polish (around Drusieniki). ✓ Some valuable timber of large dimensions left this area and was rafted to Klaipeda for the sawmills there or for sea shipment to the Baltic military ports in the Leningrad and Paldiski (Estonia) areas. (125) This was necessary because the northern Russian and Karelian forests do not produce such timber. (126) In addition, Lithuania exported some lumber, prefabricated houses, matches, writing paper, and railroad ties. The bulk of these shipments went to the southern portions of the USSR. (127) Probably the exports mentioned were part of the exploitation to fill the post war needs of the USSR, however. Under present conditions it is doubtful that Lithuania is able to export any wood or wood products. (128)

3. Wood Substitutes

- a. The most important fuel substitutes are domestic peat and imported coal. There is a sufficient peat reserve to allow long range, intensive production (6,000,000 raummeters of air-dry peat mass), (129) but production is difficult and fit only for prisoners on forced labor in the opinion of most Lithuanians. Production has never been more than 100-200,000 tons per year. Present production is not known but other fuel shortages must have forced an increase and new peat bogs have been put into production. (130) Shops in Vilno can turn out 50 complete peat-digging outfits each year which should adequately fill Lithuanian needs. (131)

In 1950, the peat production goal was set at 822,000 tons. 620,000 tons were actually produced. In 1952, production rose to 850,000 tons. (132)

It appears that peat production has steadily increased and that its use may be easing the fuel wood shortage. Most is consumed in the cities by government institutions and buildings and railroads.

- b. Coal has always been scarce in Lithuania. In 1940-41, during the first Soviet occupation, there was no coal imported at all. Trains, the army, and industry all used wood in its place. The quantity available in Lithuania now is unknown, but coal is supposedly available for the railroads and industry and even rarely for the population. (133)
 - c. Oil has never been widely used in Lithuania for heating purposes, but has been used for lighting. It is in very scarce supply and when a shipment arrives, lines of 600 or more people form to buy it. Kerosine is practically unavailable in winter, and so the people hoard oil whenever they can get it. Pine torches may still be in use in rural areas as they were during World War I.
 - d. Chief substitutes for structural wood are cement, bricks, raw clay, lime, ✓ and field stone. The first Lithuanian cement plant began operation in 1952. (134)
- (1) As early as 1941, plans had been made for a plant capable of producing 150,000 tons of cement annually. The capacity of the present plant may be close to this. Whether the production is used just in Lithuania is difficult to ascertain.

- (2) Brick production requires large quantities of fuel. In 1939, 68,000,000 bricks were produced in Lithuania, but this fell far short of the demand. Considerable quantities were imported, but increasing protective import tariffs cut off the supply. As a result, brick construction is rare and is confined mainly to government buildings in cities. The production goal for 1950 was 136,000,000 bricks, but 890,000,000 ~~/SIC/~~ were actually produced and production in 1952 rose to 1,570,000,000 bricks. (135)

The increasing brick industry depends upon imported fuel and along with the railroads and other industry is a major fuel consumer. Judging by the figures cited above there has been no considerable new brick construction in Lithuania and the available brick had probably been used for repair purposes. In any event, the activities have not been sufficient and travelers to Lithuania report that cities look old and dirty. (136) From 1953-55, 600,000 sq meters of living space were constructed by the state, and 248,000 sq meters by private individuals (with state credit). In addition, Kolkhozes and other official organizations constructed 7,000 small dwellings. What part of this production is brick is not known, but certainly almost 100% of the private and most of the government construction was of wood.

- (3) Even under the Lithuanian Republic, production of buildings of raw clay was encouraged and supported by the government, particularly in areas where the forest density was low. Such construction is not durable and does not stand up well under prolonged rain. To protect against this, the buildings must be plastered and this considerably increases the cost. Clay is abundant and widely used, but it is essentially an emergency material and the techniques of using it are not well known to Lithuanian workmen.
- (4) Field stone is abundant, but mainly in areas where timber is also most available. The Czarist Government tried to support this type of construction with credit and advice, and in many cases the large estates build their out buildings of field stone formed with a lime mortar. These buildings when set on proper foundations, were very durable, but also very expensive and required a great deal of lime or cement. Therefore, they did not become popular. Field stone is probably still used for foundations.
- (5) The availability of lime is dependent upon the supply of cheap (soft, deciduous) wood (aspen, alder, willow). The lime stone pits are mainly found in northern Lithuania and also, south of Vilno. Production has always been low, of poor quality, and largely used in minor industries and for brick painting. (Some of the northern lime is used in sugar production.) Lime was replaced as mortar by cement.

4. The Wood Industry

- a. Management The All-Union Ministry for the Paper and Lumber Industry is in charge of the production of the wood industry. Territorial sub-divisions of the Ministry represent it at the county level in the management of wood combines, which are made up of combinations of individual mills, shops, etc. Individual enterprises which produce items of minor importance (Shirpotreb) for domestic consumption only are directed by the Ministry of Wood Industry, but all others are subordinate to the Ministry for Paper and Lumber. (137) The known combines are those in Klaipeda, Kaunas, Vilno, New Vilno, and Ukmerge. (138) The latter produces prefabricated houses for domestic use. (139) The Ministry of Paper and Lumber industries seems to be one of the most russified branches of Lithuanian industry, probably because the raw materials are largely imported and the finished products exported, and also because the quality of available Lithuanian technical manpower is very low.

- b. Equipment On their withdrawal from Lithuania in 1944, the Germans took all equipment of value with them, especially that of industrial importance such as locomotives; and in the wood industry, engines and frames. Most of it was removed as far as East Prussia or even to the present East Germany where it was largely destroyed. (140) That which remained in Lithuania was worthless, worn-out and outmoded. The Soviets restored some of the industry with captured German equipment, but there are no statements by Soviet sources about what has been accomplished. Occasional reports from non-professionals who have reached western Europe from Lithuania indicate that the wood industries of Klaipeda, Tilsit-Ragait, and Koenigsberg are in production, (141) but the reports are not adequate to form the basis for an opinion of their capability and production. It is probable that their production is much less than it was before the war because the equipment must be very worn and outmoded (few, if any, new installations have been erected) and the wood supply is limited. Accurate data does not exist, however. (142)
- c. Saw Mills Klaipeda, center of the saw mill industry, suffered heavy damage in 1944. There are indications that some of the mills were destroyed, but a considerable part of the former installation has been restored and is now in production. Production is mainly dependent on timber imported from White Ruthenia and Poland.
- d. Plywood (143) The Klaipeda plywood industry is in production and is probably producing at a higher rate than before the war because timber for this purpose is available. The Tilsit-Ragait district is also in production. The product is exported.
- e. The Match Industry The Kaunas plant is in production, but there is no information about the Klaipeda plant. Production figures are not available. The product is exported.
- f. Furniture and Pre-Fabricated Homes
- (1) There were a few hundred small workshops engaged in furniture manufacture prior to the war. The communists socialized the industry in 1940-41 into a collective, cooperative enterprise and the Germans maintained the system. The industry is now unified under a combine arrangement. Its size and capacity is unknown but its production for domestic consumption is below the pre-war level because furniture is rarely available on the Lithuanian market. Apparently most output goes directly to the USSR proper.
 - (2) The pre-war production of prefabricated houses (mainly small units) was of importance in the growth of Kaunas, and the surrounding counties. The industry has always been largely russified. It produces standard houses of 280 sq meters size and larger homes up to ten rooms. Most are shipped to the Ukraine. (144) There are prefabricated home combines in Kaunas and Vilno. Their production is unknown, but cannot be high.
- g. Cellulose The cellulose industries of Klaipeda and Tilsit-Ragait are in production again. Their combined capacity formerly was about 700,000 rammmeters (560,000 festmeters) of spruce pulp wood per year. It appears that the Soviets reconstructed this branch of the wood industry most thoroughly. Its raw material supply, however, is limited. There are large, young spruce stands in Lithuania, (former Sveksnay, Rietavas, Taurage, Pajure, Jurburkas, and Telsiai forest master districts) but their production is low since they were devastated in 1940-41 by German military fortification construction. At times the cellulose plants have had to close and their workers have had to go to the USSR to cut pulp wood themselves. The plants run below capacity and in 1955 the plant in Klaipeda lost 7,000,000 rubles. (145)
- h. Others Other industries such as the match, excelsior, paper and cardboard industries operate in their old locations and produce not significantly more than they did in pre-war years because of the raw material shortages. Most of their production is also exported. This is true of all the wood industry, even though Lithuania suffers from such a shortage of their products. Nothing is known about resin production or whether the one plant (Alytus) is still in existence, but the shortage of ripe pine stands means that production must be below former years. Soviet Latvia, where pine is also scarce, is experimenting with spruce resin to try to obtain colophonium and turpentine from spruce trees. It is possible that Lithuania may be trying the same thing. (146)

5. The Wood Industry

- a. There was no mass exodus of unskilled labor from Lithuania with the German troops in 1944. The laborers, like the peasants, were very conservative and chose to remain in their homes. They were not necessarily favorable to communism, although many had been subjected to communist propaganda, but many had large families and saw little hope for themselves in Germany. The wood industry in Klaipeda lost many skilled workers to (German) army service as regular or auxiliaries. Few of them ever returned to Klaipeda. Those who remained rebuilt the wood industry together with many Russians who were brought in. The Vilno area also lost many skilled workers. The Jews were killed by the Germans and many Poles were repatriated to Poland after the war (1945-46). The number of skilled people available is difficult to ascertain, but the shortage is a serious problem for the Soviets.
- b. Unskilled labor is now abundant because many ambitious young peasants moved to the dities after collectivization, especially after 1952. This is one reason for the communists' intense interest in training unskilled workers. The high figures which the Soviets list for students in universities include the unskilled workers attending courses to obtain a necessary theoretical basis for their work (the techni-minimum educational system). Apparently as a result of this training the acute shortage of skilled workers no longer exists. Certainly the forest economy and wood industry do not now seem to have a serious shortage of trained people.
- c. The mechanization of agriculture on the Kolkzoses has released additional labor. Many of the surplus laborers have been sent out of Lithuania, to the Far East, the southern deserts, and Siberia. It appears that the concentration camp system failed after the death of Stalin. The camp labor had such a high mortality rate and was so restive and unwilling that its labor was practically worthless. The release of these people to live as family units did not help particularly, however, for when living conditions become particularly bad in the Buryat-Mongolian Republic, southern USSR, and especially Siberia, many of the families leave and return to their old homes. (147) The easing of restrictions under Bulganin and Khrushchev particularly resulted in the return of many of the former camp inmates. Many remained because of life-long terms of banishment, but the old restrictions have been eased and the Soviets are attempting to induce rather than force people to go to the frontier areas. Those who return from the new lands have no right to work on government supported enterprises, including Kolkhozes, for two years, and they are propagandized to return to the new lands again for a definite contracted period after which they can return home. In many reported cases they have even been promised permission to return to areas from which they were banned. In the new lands, the Soviet government tries to offer every inducement including better living conditions, better pay, schooling for their children (and even scholarships). The result of all these efforts has been a slow but steady movement of people into the new lands.
- d. The recruitment of youth for work in Siberia and Kazakhstan is also very actively progressing. The work is "voluntary" but the pressure exerted is very great. It appears that young men leaving the army must sign contracts to go to the various areas as pioneers in forestry, agriculture, and industry. Some remain there, marry, and establish families. The young people remaining at home are constantly besieged by propaganda, and the communist press constantly criticizes officials who have not performed this service in their youth. As a defense against the pressure, young people pour into schools. There they have at least temporary safety from the prospects of frontier service and this is a major reason why Soviet schools are so crowded. While the communists originally welcomed the interest in education, it has now become a problem and they attempt to discourage it. Admissions to colleges are sharply decreasing. Even devoted communists object to this tactic, however. The Secretary of the Lithuanian Communist Party, A Snieckus, has complained about it and stated his view that all educational institutions should be subordinated to Ministries of Education in the separate republics not to the All-Union Ministry. (148) The decreasing number of students has actually resulted in considerable unemployment, (149) but the communists skillfully exploit this situation by forcing the unemployed into fishing (Baltic and Atlantic) or the new lands. As said above, eye witnesses have reported upon the scarcity of young people in Lithuania. This has such great importance that it is a major factor in communist planning because:

- (1) It removes a potentially dangerous and aggressive, nationally minded force from the country which has been partially replaced by more dependable Russians; and
- (2) It aids the overall economy by the stimulation of large, fertile areas in agricultural and industrial development.

Overall this Soviet policy appears to be successful.

- e. The Lithuanian forests are worked by communist organized ^{under KGB} brigades. ✓
During the period of intense exploitation (1944-48), and from 1947-50 most of the rural population and even some city dwellers were mobilized for forest work (men from 16-50, women from 18-40). (150) The individual farmers, who were still numerous during the period, were all forced to go and the Kolkhozniks, as well as 12,000 brigades including 260,000 workers ✓ were formed. They worked not only close to their homes but in distant areas as well (especially the large forests around Druskieniki).
 - f. In addition to the Lithuanians, there were Polish, Russian, and White Ruthenian brigades. The workers lived the lives of prisoners, under guard, supervision, and discipline. They had common food and received rations according to their productivity. They could be ordered to any area. Lithuanians worked in Karelia and the Poles, Russians, and White Ruthenians in Lithuania. (151) Individual salary rates were established. Outstanding workers (Stakhanovites) received premiums in higher wages, gifts, etc. Women were assigned easier tasks such as removing branches and bark, piling branches, etc. In general the Russians worked more willingly than the Lithuanians, who at times committed acts of sabotage. (152) Supervisors had serious difficulties in getting the peasants to work. (153) In addition to the logging brigades, there were special brigades for transportation and hauling. Apparently the brigades set up during this period are still organized and still function on a smaller scale during the winter logging operations. They may also be mobilized for reforestation and nursing care of the young stands. Most of the participants in the latter work are women and youths who are bound to their duties in caring for particular areas until the stands reach a certain age. Then another brigade charged with thinning and clearing takes over.
 - g. All forestry workers receive practical training, classwork, and communist indoctrination. (154) They hold meetings and organize competitions to improve production. Additional training is necessary because of the mechanization of many processes. In spite of all the organization and training, however, the system of mobilized workers is stiff and unproductive, much less efficient than the former system employing well paid free workers. Therefore, since 1949 about 2,000 permanent forestry workers have been hired (about 100 to each Leskhoz). (155) This is a system which was seriously considered before World War II and is a desirable step forward from the standpoint of the forests (it has long ✓ been used in Germany). Classification of positions has also progressed. ✓ Thus, a logging brigade which worked in Karelia had such specialists as a leader, his aids, raftsmen, saw men (with power saws), axe men, tractor drivers, and winch men. (156)
 - h. Salaries are low and consumer goods are in very short supply. The "real" prices are those of the black market and they are very high. Best paid Soviet laborers work in the coal mines, and oil and metal production; lowest paid are the Kolkhozniks, (3-10 rubles per day) and the forestry workers have only a slightly higher wage scale. (157) Average salary for a 46-48 hour week is 400-500 rubles. The necessary minimum wage for survival is 700 rubles. (158) Skilled workers (carpenters, plasterers, plumbers, etc) for a few hours of private employment can earn 2-4 times as much as for their week of government supported employment.
6. Transportation From 1944-1950, transport brigades supplied the hauling using horsecarts and sleds. Tractors were introduced on larger operations (2-3%) in 1949. (159) Since that time mechanical hauling has become more common place, (160) but even today with little heavy timber available, horse and man power is still most important. The horses (and men) are supplied by Kolkhozes but there is not enough stock. Most Leskhozes have benzine driven trucks, but apparently they are not available for timber hauling. It is doubtful that much Lithuanian timber is rafted today, but large amounts still pass through Lithuania on the Nemunas and Viliya Rivers from Poland and White Ruthenia (forests of northern Bialowieza) to Mairpoda. (161)

7. Mechanization

- a. The most mechanized field of the forest and wood economy is the wood industry. Forestry techniques did not change for over 100 years but the communists were eager to mechanize in order to speed up the work and to free labor for other tasks. A special division of the faculty of forest science was in charge of encouraging forestry students to study mechanization techniques and this subject received priority attention.
- b. Primary logging tools are still the axe and cross-cut saw, but some electric powered saws are now in use.⁽¹⁶²⁾ Tractors and a few trucks are also in use, but their use is limited by extremely poor forest roads. In some cases, available trucks are driven by 2-3 shifts of drivers a day in order to transport the wood.⁽¹⁶³⁾ Considerable attention is paid to the introduction of heavy ditch digging equipment for drainage of swamps and peat bogs. This could accelerate proposed drainage work very much and help to increase forest area and production.
- c. Most advanced mechanization applications have been made in preparing the soil for reforestation.⁽¹⁶⁴⁾ Work is under way to apply special cutters in thinning and cleaning young stands. It appears that the permanent workers being assigned to the Leskhoves are all specialists ✓ in mechanization. Mechanization has many advantages including acceleration of the work, increased production, decreased dependence on hand workers (and their tendencies toward sabotage) and their release to other work, and easier control over the whole forestry operation. Some of the difficulties of mechanization include the lack of ability of the available workers to handle the equipment, the lack of repair facilities, and the expense. Overall indications are, however, that the mechanization program is a success leading to the fulfillment of plans.⁽¹⁶⁵⁾

F. Conclusions

1. The Forest Economy

- a. The Soviets plan to increase the Lithuanian forest area from 15-25% by planting sandy and swampy areas and even by converting land which is now used for agriculture. Apparently the Soviets want to concentrate on forest development in the natural forest zone and to concentrate ✓ agriculture in the southern areas of the USSR.
- b. The present Lithuanian forest stand is poor (7% mature, 43% middle age, and 50% young stands). Normal production of normal (33.3% of the forests in each age group) stands on the present forest area (approximately 1,000,000 hectares) would be 2,500,000 - 3,000,000 festmeters per year under an intensive forestry program. This production would be divided into 10% structural timber, 30% semi-structural timber, and 60% fuel wood. Present production, however, is only about 2,000,000 festmeters per year divided into 10% structural timber (of lesser quality, little suitable for lumber) 20% semi-structural timber, and 70% low quality (brush) fuel. This unfavorable situation cannot be corrected for 20-30 years after which the supply of structural wood may be more nearly normal. After 50-60 years, if the system does not change, production could be as high as 4,500,000 - 5,000,000 festmeters with as much as 30% of the harvest structural wood.
- c. In order to supply its increasing population and industry, the USSR is introducing rapid growing trees which can be cut within 50 years. For export purposes, it plans to raise stands of more valuable, slowly growing timber (pine, spruce, larch, and oak) which are cut from 100 years and up. New mixed stands with softwoods growing among evergreens are being planted. Only oak is planted without the company of other trees. Natural (climax) forest types will be produced but new forest types with new and more resilient trees will also be introduced. Apparently the Soviets plan to increase soft wood (poplar, willow, aspen, alder, etc) production which could yield 500,000 - 6,000,000 festmeters per year if properly managed (even in spite of extensive forest thinning and cleaning). Assuming that the forest area will increase by 25% and rapid growing trees will be introduced it may be supposed that within 20-30 years these new areas will be producing two festmeters per hectare per year, and that in 50-60 years the total production may be 6,000,000 - 6,500,000 festmeters.

- d. Present exploitation is chiefly by selective cutting (thinning, cleaning, dead wood removal), but clear cut methods are used in some ripe stand remnants. Thinning is very extensively used in order to increase the growth increment of the remaining trees. The only exploitation in the forest of Group I (conservation forests) is the removal of dry wood. In general, exploitation is much more intensive than it ever was before in Lithuania.
- e. Reforestation activities are very intensive and theoretically all cut-over areas are artificially reforested in order to save time. An extensive program is underway to reforest all former forest areas and raise the forest area by 25%. To date, reforestation results have not been satisfactory but much effort is being put into improving them. Appropriations for this purpose are not adequate, however. There are plans to establish large nursery areas to raise native and foreign seedlings, and some of this work has already been accomplished. The collection of seeds from existing stands is an important objective.
- f. Conservation is of increasing importance. Forest guards have more responsibilities and duties. Conservation is easier than in former times because of the decreased rural population and its concentration on Kolkhozes; closer community control; and the decreased number of stock. Stock grazing in the forests is still allowed, however, except in young stands. Fires are still a pressing problem, judging by the number of protective measures taken (watch towers, telephone, etc), particularly since 90% of the pine stands are young and subject to fire (older stands are fire resistant). Nothing is known at this point about measures taken to protect against harmful insects, fungi, etc. The problem of damage by the May Bug to young pine stands is probably very serious.
- g. It appears that the Lithuanian forestry system is fully incorporated into the Soviet system and works under its direction. Apparently the post war personnel shortage has been overcome and an adequate supply of trained professionals exists. The central management and even local units are more decentralized than they were under the Lithuanian Republic. The system is more specialized and flexible than ever before. Forestry is now led by communist educated professionals who are actively or passively supported by a number of Russians in the department. Very few of the old Lithuanian professionals still hold position of importance. Even those who were loyal communist supporters and the backbone of the administration of 1940-41 have been replaced.⁽¹⁶⁶⁾ The old guard no longer has any considerable influence on forestry policy. With communists firmly in control, the Soviets have no worries about the direction of the forest economy. Evidence indicates that the professionals are in sufficient numbers and of higher quality than those who worked under the Lithuanian Republic. The older men have to take educational courses to bring themselves up to date. All must have a wide knowledge of biology and of mechanization concepts, and be propagandists of communism.
- h. The forestry research program is progressing on a serious productive, basis. Its aid is to lay a scientific basis for government plans, especially in reforestation, and introduction of new trees and forest formations. Increasingly large scenes are available for investments and improvements.

2. The Wood Economy

- a. While present production is large considering the condition of the forests, it is of poor quality and difficult to transport (brush wood). The rural population seems to have enough fuel wood, but the cities suffer from a severe shortage. Increasing domestic peat production and coal imports tend to alleviate this situation. The fuel wood shortage will not be solved for 20-30 years when the supply may be sufficient to ease the demand for coal, if peat production continues high. Present structural wood production is insufficient to restore burned cities and towns and to construct new "agrograds". Domestic lumber production cannot meet local demand, but some wood products are exported on an emergency basis in spite of local shortages.

- b. The present status of the wood industry is mainly unknown. Because of the wartime damage and the shortage of raw material, it cannot be higher than before World War II. The existing industry is small and unproductive, fulfilling only a part of local demand. The Klaipeda industry has recovered but is hampered by a shortage of raw material. Its products (and those of the Tilsit-Ragait area) are mainly exported to the USSR and Western Europe. Its capacity is apparently no higher than it was in 1939. Large investments are needed to modernize Klaipeda's plants but more important is the provision of an adequate timber supply. The Polish forests are on the point of exhaustion, and the East Prussian forests were not even sufficient to supply Koenigsberg, Tilsit-Ragait and Elbing before World War II. The production of Klaipeda will certainly drop in the near future.
- c. Labor would be abundant in Lithuania but the Soviets have taken almost all young people for army service or work in the new lands. In their place, the Soviets have sent in many Russian colonists to help increase Soviet influence and control. The attempt by Lithuanian young people to escape deportation by enrolling in school has been checked by the Soviet policy of cutting enrollment quotas. Mechanization has resulted in considerable unemployment which has freed additional persons for removal to the new lands. The training of skilled workers receives a high priority. This is important in the forest economy because of the new problems raised under the intensive forest policy. Mass forest labor is performed by Kolkhozniks bound to brigade organizations which are available for seasonal forest work plus emergency service. For the first time, permanent workers are employed in the forests. The general level of the labor is steadily improving. The laborers are not sympathetic to communism and its results, but they are completely under communist control and are inactive and indifferent.
3. The Outlook for the Future The centralized, inflexible, totalitarian Soviet police state is in full control of Lithuania. The ruthless tactics of the state suppress any hope among the people for a better life. The population is indifferent and tired, but uncooperative and even hostile toward the government. This mood and unwillingness to cooperate is the best scale for judging the success of the communist system. It is the worst obstacle to the Soviets' plan to increase production. There are no serious political movements against the Soviet regime, especially in Lithuania which has been thoroughly penetrated by Russians and enervated by the removal of its young people. There is still a shortage of skilled workers and of professionals. They are being rapidly trained but the quality of their training is not yet adequate. There is a particular shortage of skilled workers in all phases of mechanization, but serious efforts to solve this problem are underway. The plans laid for improving the forest economy are workable if the population can be forced or encouraged to carry them out. The new policies of Bulganin and Khrushchev are intended to give the people more hope and enthusiasm.

FOOTNOTES

- (1) Pakstas, K., "Lietuvos Plotas ir Gyventojai", Draugas, No 259, 1951
- (2) "Narodnoye Khozyaistvo SSSR", 1956, p 18
- (3) "Weltforst Atlas", Hamburg, 1954
- (4) "Letters from Lithuania", 1957, R.V.B.
- (5) Matulionis, A., "Lesnoye Khozyaistvo Sovetskoy Litvy", 1950, p 16
- (6) Ibid
- (7) Author
- (8) Guginas, A., "Lietuvos SSR Mijku Ukio Suklestejimas", Vartis 1954, p 3
- (9) Ibid
- (10) A. Matulionis Gives 0.43
- (11) Festmeters per Inhabitant per Year
- (12) Matulionis, A., 1950
- (13) Jankauskas, A., "Maumedzia", 1954, p 234
- (14) Matulionis, 1950, p 18
- (15) Guginas, 1954, p 3
- (16) Matulionis, 1950, p 18
- (17) Author
- (18) Ibid
- (19) Buchholz, "Mitteilungen", April 1948, p 12, & author
- (20) Author
- (21) "Tiesa", No 31, 5 Feb 56
- (22) Matulionis, A., 1950, p 24
- (23) Buchholz, April 1948, p 2
- (24) Pakstas, "Draugas", 1955, No 5
- (25) Author - From a letter (Dec 1956) written by Professor A. Koncius now residing in Lithuania
- (26) Sandara, 18 Jan 57; Draugas, 24 Mar 51, 19 Apr 51; Naujenos, 2 Feb 56
- (27) Naujenos, 1956, No 228
- (28) Author
- (29) Naujenos, 1956, No 226
- (30) Guginas, "Vartis", 1953, p 9-10
- (31) Matulionis, A., p 12
- (32) A photograph of a Lithuanian forestry professor and a group of students received in the US in 1956 bore the note that few of the students were Lithuanians

- (33) Author
- (34) From a letter from Lithuania received in the US in 1957 - Author
- (35) "Girios Aidas", 1956, No 14, p 41
- (36) From a letter from Siberia received in the US in 1956 - Author
- (37) "Naujenos", No 261, 11 Oct 50
- (38) Ibid, 18 March 56
- (39) Ibid
- (40) "Musu Girios", 1944, p 64, 66
- (41) Author
- (42)q Ibid
- (43) Ibid
- (44) Ibid - From a letter from Siberia received in 1956
- (45) Matulionis, 1950, p 25-26
- (46) "Tiesa", 22 June 52, No 47
- (47) "Lesnoye Khozyaistvo", 1952, No 4
- (48) Ibid
- (49) Ibid
- (50) Gugnas, "Vartis", 1953, p 40
- (51) A letter dated in 1956 from the West German forestry expert, Dr. E. Buchholz
- (52) "Lesnoye Khozyaistvo" 1950
- (53) Buchholz, E., "Die Wald u Holzwirtschaft des Ostraumes"
- (54) Ibid, Mitteilungen, 1948, No 4
- (55) Ibid, 1951, No 13, p 2
- (56) Ibid, 1950, No 12, p 23-24
- (57) Matulionis, A., 1950
- (58) "Naujenos", 11 Oct 50
- (59) Ibid, 11 April 56 - The author has had insufficient opportunity to study
this point, particularly as it applies under the regime of Bulganin and
Khrushchev.
- (60) Yankauskas, "Maumedziai", 1954, p 234
- (61) "Vartis", 1954, p 4
- (62) Pogrebniak, P.S., et al, "Osnovy Lesnoi Tipologhii, 1941
- (63) Ibid, p 4
- (64) The secrecy surrounding Soviet research may make this conclusion
presumptuous - author
- (65) Matulionis, A., 1950, p 16
- (66) Ibid, p 24

- (67) As a practical matter, these strips had already been robbed of their mature timber prior to World War II
- (68) Author
- (69) Bachholz, "Mitteilungen", No 4, 1948, p 3
- (70) "Vartis" 1954, p 4
- (71) Ibid, p 5
- (72) Ibid, p 4
- (73) Buchholz, "Mitteilungen", No 4, 1948, p 3
- (74) Author
- (75) Ibid
- (76) "Draugas", 12 Jan 51
- (77) "Maumedziai", 1954, p 3, 247
- (78) "Vartis", 1953, p 7
- (79) "Draugas", 7 Dec 50
- (80) Gugniņas, "Vartis", 1954, p 8
- (81) Matulionis, A., 1950, p 30
- (82) Yankauskas, "Maumedzia", 1954, p 18-19
- (83) Matulionis, 1950, p 3
- (84) Ibid, p 29
- (85) "Draugas", 7 Dec 50
- (86) Matulionis, 1950, p 29
- (87) Ibid, p 33
- (88) "Vartis", 1954, p 8
- (89) Ibid, p 7
- (90) Matulionis, 1950, p 33
- (91) Ibid, p 36
- (92) Ibid, p 37
- (93) "Tiesa" as reprinted in "Draugas"
- (94) "Lesnaya Promyshlennosi", 1956 "Peredovoi Leskhozlitvy", p 20
- (95) Ibid, p 20
- (96) Matulionis, 1950, p 34
- (97) Matulionis, 1950, p 34
- (98) Ibid, p 15
- (99) Ibid, p 13
- (100) Ibid, p 23
- (101) Author
- (102) Matulionis, 1950, p 29
- (103) Ibid, p 35
- (104) Ibid

- (105) Ibid
- (106) To the author
- (107) Matulionis, 1950, p 32
- (108) Economic Statistics for the Soviet forest industry are very scarce, particularly regarding Lithuania- author
- (109) Author
- (110) Ripe stands make up about 7% of the forest or about 7,000 hectares.
A. Matulionis Lesailesnoye Chouyaistvo 1950
- (111) Festmeters per Inhabitant per year
- (112) "Narodnoye Khozyaistvo SSSR", 1956, p 18
- (113) "Tiesa, #4159 - 1957
- (114) Ibid
- (115) Letters from Soviet Lithuania - author
- (116) Ibid
- (117) "Naujenos", No 202, 1956
- (118) "Tiesa" no 31, 1956, No 69, 1951
- (119) "Draugas", 1952
- (120) "Tiesa", No 31, 1956
- (121) "Naujenos", 4 July 56
- (122) Ibid, 2 Feb 56
- (123) "Draugas", 10 April 50
- (124) "Naujenos" 2 Feb 56
- (125) "Draugas", 1952; "Tiesa", No 81, 1952
- (126) The exports of Klaipeda have not been examined - author
- (127) The emigrant papers claim that over 100,000 cubic meters of wood products are exported, but this is exaggerated - author.
- (128) Author
- (129) "Musu Girios", 1944, p 3
- (130) "Draugas", 1951 from "Tiesa" 10 Jan 50
- (131) "Maciuka, B, Lithuania in the Past 30 Years", p 178
- (132) Ibid, p 175
- (133) "Tiesa", 4159 - 1957
- (134) Maciuka, p 179
- (135) Ibid, p 175
- (136) "Naujenos", October 1955
- (137) Matulionis, 1950, p 24
- (138) "Tiesa," No 81, 1955
- (139) Maciuka, p 180
- (140) Buchholz, E., "Mitteilungen," No 4, 1948, p 2

- (141) "Naujenos", No 226, 1956
- (142) Author
- (143) "Naujenos", 26 Feb 51
- (144) "Tiesa", No 81, 1956
- (145) "Sandara", 1956
- (146) "Lesnoye Khozyaistvo", 1949, No 2 (19(p 23
- (147) Numerous letters from Siberia and Lithuania, 1956, 1957 - author
- (148) "Naujenos" 8 March 56, from "Tiesa" 19 Feb 56
- (149) "Naujenos", 18 Feb 56
- (150) "Draugas" 1 Dec 51, 12 July 50
- (151) Ibid, 1952
- (152) Ibid, 20 Feb 51
- (153) Ibid
- (154) Matulionis, A., 1950, p 26
- (155) Ibid, p 29
- (156) "Naujenos", 2 Feb 56
- (157) Author
- (158) "Draugas", 1 April 56
- (159) Ibid, 4 Oct 50
- (160) Matulionis, A., 1950, p 32
- (161) "Draugas", 1 Dec 51
- (162) Ibid, 31 Jan 57
- (163) Ibid, 31 Jan 51
- (164) Matulionis, A., 1950, p 32
- (165) "Draugas" 31 Jan 57
- (166) Letters from Poland and Siberia - author